

*Briefing to TAEIG
FAR/JAR 25.1309 Harmonization
Rulemaking Project*

Prepared by Linh Le
ANM-111
Tel: 425-327-1195
Fax: 425-327-1320
Email: Linh.Le@faa.gov



June 27, 2001

1

Status Summary

- Delivered (in draft form) for TAEIG review
 - NPRM and AC
 - Examples of Specific Risk relevant incidents, Accidents, and AD's
- Materials to aid review by Working Group
 - Side-by-side comparison of original ARAC recommendation and FAA's latest proposal
 - Example SSA comparison between proposed ARAC and FAA means of compliance

June 27, 2001

2

Status Summary

- Letter from FAA (Tony Fazio) to TAEIG (Craig Bolt), May 10, 2001
 - Request ARAC submit recommendation within 9 months

June 27, 2001

3

TAE June 2001 Handout 27
Harford 27¹

Main changes in NPRM - relative to the June 1998 SDAHWG version

- Clarify intent of 25.1309(a)
 - Equipment and systems must be considered separately and in relation to others
 - The phrase "not a danger in itself" could be misinterpreted.
- Airplane level Cumulative Risk - 25.1309(b)
 - Proposed in rule because a related ARAC recommendation was deemed "rulemaking by AC"
- Indication/annunciation format - 25.1309(c)
 - Proposed in rule because a related ARAC recommendation was deemed "rulemaking by AC"

June 27, 2001

4

Main changes in AC - relative to the June 1998 SDAHWG version

- Removed "rulemaking by AC"
- Proposed guidance regarding Specific Risk
- Retained all of ARAC's recommended guidance on Average Risk assessment

June 27, 2001

5

What is Specific Risk?

- The risk to a specific airplane under specific conditions
- The intent is:
 - Ensure the airplane is acceptably fail-safe on any given flight, not just a "typical flight of mean duration"
 - Minimize uncertainty in average risk analysis.
- Specific Risk assessment is not a regulation. It's part of a complete means of compliance to 25.1309(b)

June 27, 2001

6

Why is the FAA concerned about Specific Risk assessment?

- Accidents and incidents that involved (or suspected of having involved) latent, or pre-existing MMEL failure conditions
- Airworthiness directives that involved pre-existing failures as the "unsafe condition"
- Continued Operational Safety (COS)
- Need a means to regulate anticipated dispatch with latency to similar standards as used for MEL

June 27, 2001

7

Assessing Specific Risk in "Systems" is neither new nor unique to

- Flight Controls
 - Regulation 25.671(c)(2) has had the "probable plus one" requirement since 1968 (Amendment 23)
 - The Flight Controls Harmonization Working Group (FCHWG) has recommended a different way of addressing Specific Risk in the rule itself (coupled with any single failure, any additional failure that could be catastrophic must meet a probability of 1/1000)
 - The FCHWG decisions are pending the outcome of 25.1309 Specific Risk policy discussion

June 27, 2001

8

Assessing Specific Risk in "Systems" is neither new nor unique to

- Powerplant
 - 25.901(c) compliance has been Specific Risk focused
 - ARAC has recommended Specific Risk guidelines regarding catastrophic in-flight thrust reversal (AC25.933)
 - No single failure
 - No latent plus one; and
 - Each contributing latent failure shall have a probability of occurrence less than 1/1000

June 27, 2001

9

Addressing Industry's concerns

- Consideration for Specific Risk in the current Average Risk guidelines of 10^{-9} ft-hr
- However, the FAA recognizes that a SSA with Specific Risk considerations may lead to:
 - reduced latency and MMEL relief
 - more balanced reliability between primary and back-up systems
 - increased use of safe-life components in back-up system
 - in some cases, more redundancy

June 27, 2001

10

Conclusion

- Regardless of Specific Risk, the ARAC recommended rule and AC resolve legal and technical concerns.
- The FAA is committed to regulating the average risk as well as its deviation.
- Most of the safety goals and SSA methodology in the original ARAC recommended Rule and AC are retained in the FAA proposal.

June 27, 2001

11